UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,707	03/19/2004	Michael Maschke	P04,0086	7519

7590 02/07/2008

SCHIFF HARDIN LLP
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, IL 60606

EXAMINER	
CHAO, ELMER M	
ART UNIT	**PAPER NUMBER**
3737	

MAIL DATE	DELIVERY MODE
02/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/804,707
Filing Date: March 19, 2004
Appellant(s): MASCHKE, MICHAEL

Steven H. Noll
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/4/2007 appealing from the Office action mailed 4/5/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,845,646	Lemelson	12-1998
6,052,610	Koch	4-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson (U.S. 5,845,646) in view of Koch (U.S. 6,052,610).

Regarding claims 1-3, Lemelson ('646) teaches a catheter with electromagnets along a desired length of the catheter, so that the catheter can be selectively shaped. Lemelson ('646) does not explicitly teach a catheter having a magnet at the tip. Koch ('610) teaches a permanent magnet at the tip of a catheter so that the catheter can be tracked (C2, L65-67). Koch also teaches that alternatively, an electromagnet can be used in place of a permanent magnet at the tip of catheter (C3, L2-5). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Lemelson ('646) by including a permanent magnet or an electromagnet at the tip

of the catheter as taught by Koch ('610) in order to create a catheter that can have its position tracked. Furthermore, such a modification would create a catheter that is capable of being tracked while navigating through the human body, which is well-known to one of ordinary skill in the art.

Regarding claim 4, the electromagnets along the desired length of the catheter would be capable of being controlled with synchronously-clocked currents. The current supply would also be fully capable of supplying respective currents.

(10) Response to Argument

Regarding Appellant's arguments with respect to claim 1, Appellant specifically argues that the electromagnets as claimed are "independently controllable", and that they can exhibit "different magnetic moments". Examiner will now address these issues directly.

Lemelson (U.S. 5,845,646) does teach a catheter with electromagnets that are independently controllable and can exhibit "different magnetic moments" (col. 14, lines 3-7). In the cited portion, Lemelson teaches:

> *"If small electromagnets are used in the catheter walls themselves, only a desired part of the catheter length can be made responsive to the externally-applied magnetic field, thus making it possible to selectively shape the catheter inside the patient."*

Based on the above cited passage, Examiner contends that Lemelson's electromagnets must be driven by a current source that is capable *at the very least* of turning on some of the electromagnets within the catheter while not turning on some of the electromagnets within the catheter. This would immediately satisfy the condition as recited in the claims and as argued by the Appellant with regards to the electromagnets being "independently controllable" and exhibiting "different magnetic moments". As explained in the Response to Arguments section of the Office Action filed 4/5/2007, Examiner strongly contends that given one electromagnet with a magnetic moment compared with another with a supposedly zero magnetic moment, the two electromagnets would definitely be considered to have "different magnetic moments".

Because Appellant's arguments in the Appeal Brief Filed 9/4/2007 are similar in nature to those filed in Appellant's arguments in the Amendment filed 12/26/2006, Examiner has included a relevant excerpt from the Response to Arguments in the Office Action filed 4/5/2007:

> *"Regarding Applicant's arguments concerning the interpretation of the electromagnets taught in Figure 11 of the Lemelson patent, Examiner disagrees with Applicant. Column 14, lines 3-7 state that the catheter may be "selectively-shaped" when using electromagnets disposed along the catheter wall. One skilled in the art would not at most interpret the language to mean the limited ability of only turning on or off the electromagnets. Instead, due to the perennial desire for the precise navigation of in-vivo catheters, one skilled in the art would certainly interpret the passage to include driving the electromagnets at different current levels to induce different magnetic moments within the catheter, thereby causing precise shaping of the catheter, as one of ordinary skill in the art would understand. One with a knowledge of the relationship between the amount of current fed to an electromagnet and the corresponding magnetic moment would surely regard Lemelson's invention to imply the use of different non-zero current levels in light of the language "...making it possible to selectively shape the catheter inside the patient." (col. 14, lines 6-7). Examiner believes that those skilled in the art of electromagnetic catheter navigation would possess this knowledge and immediately see the certainty of such an interpretation.*

Specifically, the verb "shape" (col. 14, line 6) automatically implies a large variation of controls and most certainly does not limit an operator to only select a uniform current for all of the electromagnets being driven. Instead, one skilled in the art of catheter navigation would understand that the verb "shape", as used in the context of catheter navigation, involves contorting the catheter in all different shapes (because catheter navigation throughout the body requires such contortion), and in the case of columns 13 and 14, figure 11 of the Lemelson patent, that would require the use of different amounts of currents for different electromagnets within the catheter.

Even if Examiner were to limit the interpretation of Lemelson's teachings to only activating and deactivating the electromagnets of Figure 11, a deactivated electromagnet does exhibit a different magnetic moment as compared to an activated electromagnet. One of ordinary skill in the art, may it be in the art of catheters or electromagnetism, when given a catheter with multiple electromagnets, some of which are activated and some of which are not, would surely be able to verify that the electromagnets exhibit respectively different magnetic moments. The bottom line is that when comparing an electromagnet with a zero magnetic moment to an electromagnet with a non-zero magnetic moment, one skilled in the art would agree that the two electromagnets exhibit respectively different magnetic moments, since zero is a number which is considered "different" from any non-zero number.

Given the above reasons, Lemelson's teaching in column 14, lines 3-7 inherently includes a current supply as recited in the newly amended claims, and the current supply would also be fully capable of supplying respective currents thereto to cause said plurality of electromagnets with current supplied thereto to exhibit respectively different magnetic moments. Similarly, regarding claim 4, the current supply would be fully capable of driving the electromagnets with synchronously clocked currents. This can be achieved by controlling the simultaneous activation and deactivation of the electromagnets, which would be a function of the operator. "

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Elmer Chao

Conferees:

Brian Casler

BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

Angela Sykes

ANGELA D. SYKES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700